

FINTECH BOOTCAMP 2021
COLUMBIA UNIVERSITY

JOE'S REAL-TIME CURRENCY CONVERTER PROJECT

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Goals

Joe's Real-time Currency Converter. This project contains a CLI python-based project that has a variety of features. Through this project, you convert one currency to another currency, view the top 10 currencies, and view the bottom 10 lowest currencies. All through the help of the useful CLI system. Also, we introduce a new library called emoji.



Objectives

- To be able to convert between domestic and foreign currencies
- To be able to view the highest rates currencies in real-time
- To be able to view lowest rates currencies in real-time
- Create a CLI user friendly





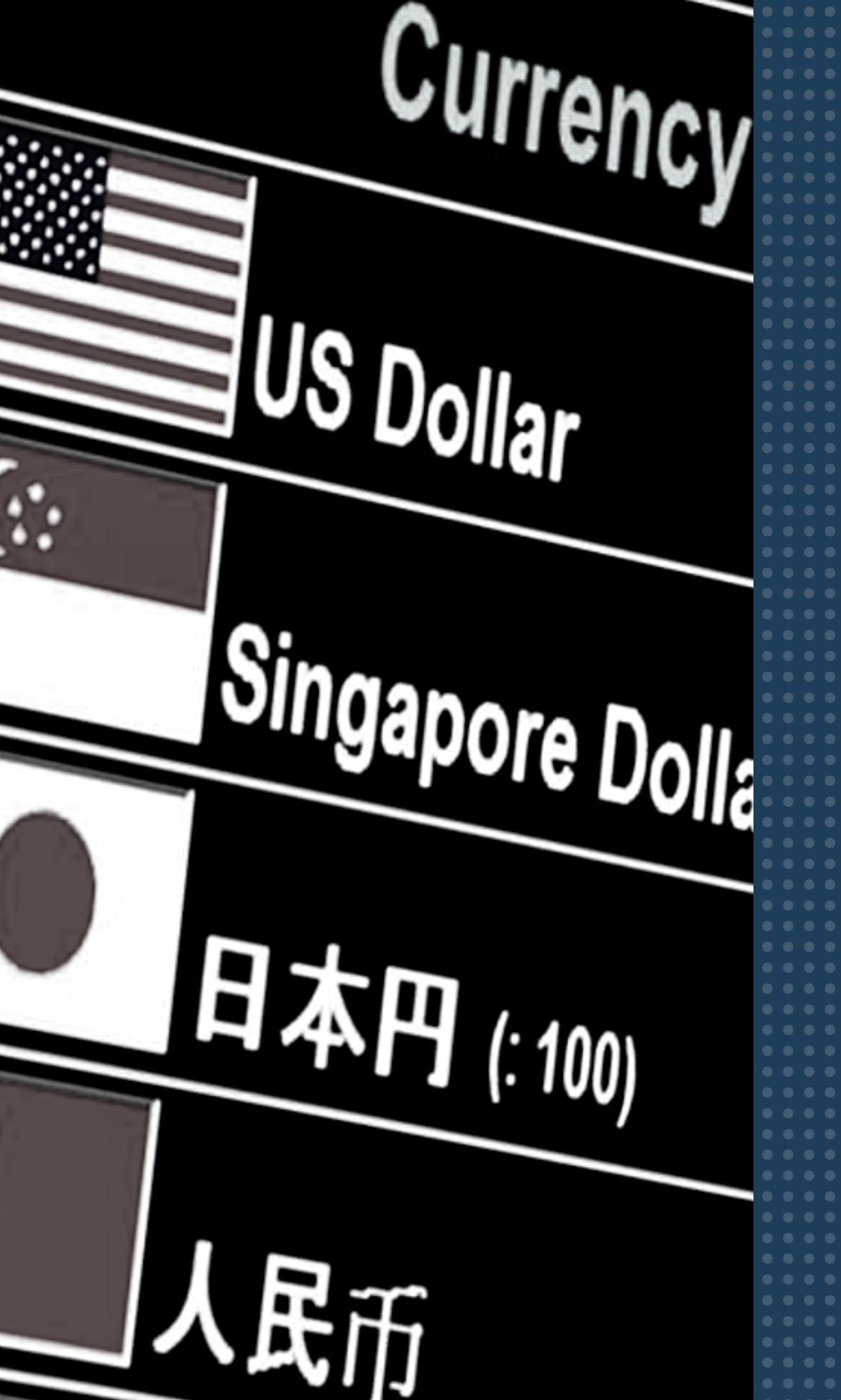
Implementation goals

created a class joe's currency converter

The class has many methods for:

- getting data .
- slicing data.
- using data to preform calculations.
- showing tables of rates.





1- Class Initialization

- URL
- DATA
- RATE

`__init__` initializes the class with attributes.

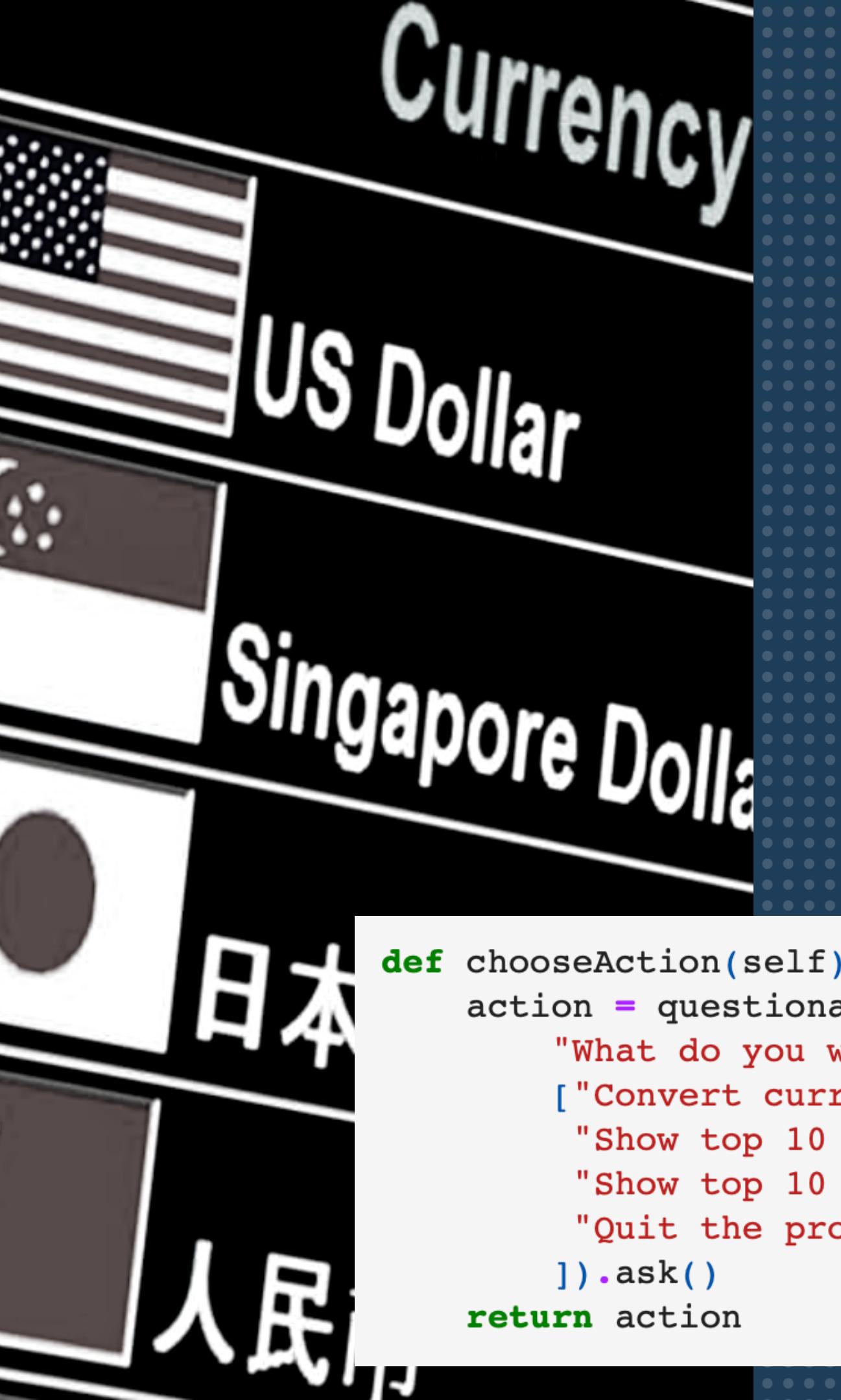
```
class JoeCurrencyConverter:  
    def __init__(self, url = url_data):  
        "These has all the attributes of the class"  
        self.url = url_data  
        self.data = self.getData()  
        self.rate = self.data['rates']
```

2- Welcome Function

- Greets the user and uses the emoji library to generate hearts.

"Hello, welcome to joe's Currency Converter"

```
def welcomeFunction(self):  
    heart = emoji.emojize(":red_heart: :red_heart: :red_heart:", variant="emoji_type")  
    questionary.print("Hello, welcome to Joe's Currency Converter", style="bold italic fg:darkred")  
    questionary.print(heart)
```

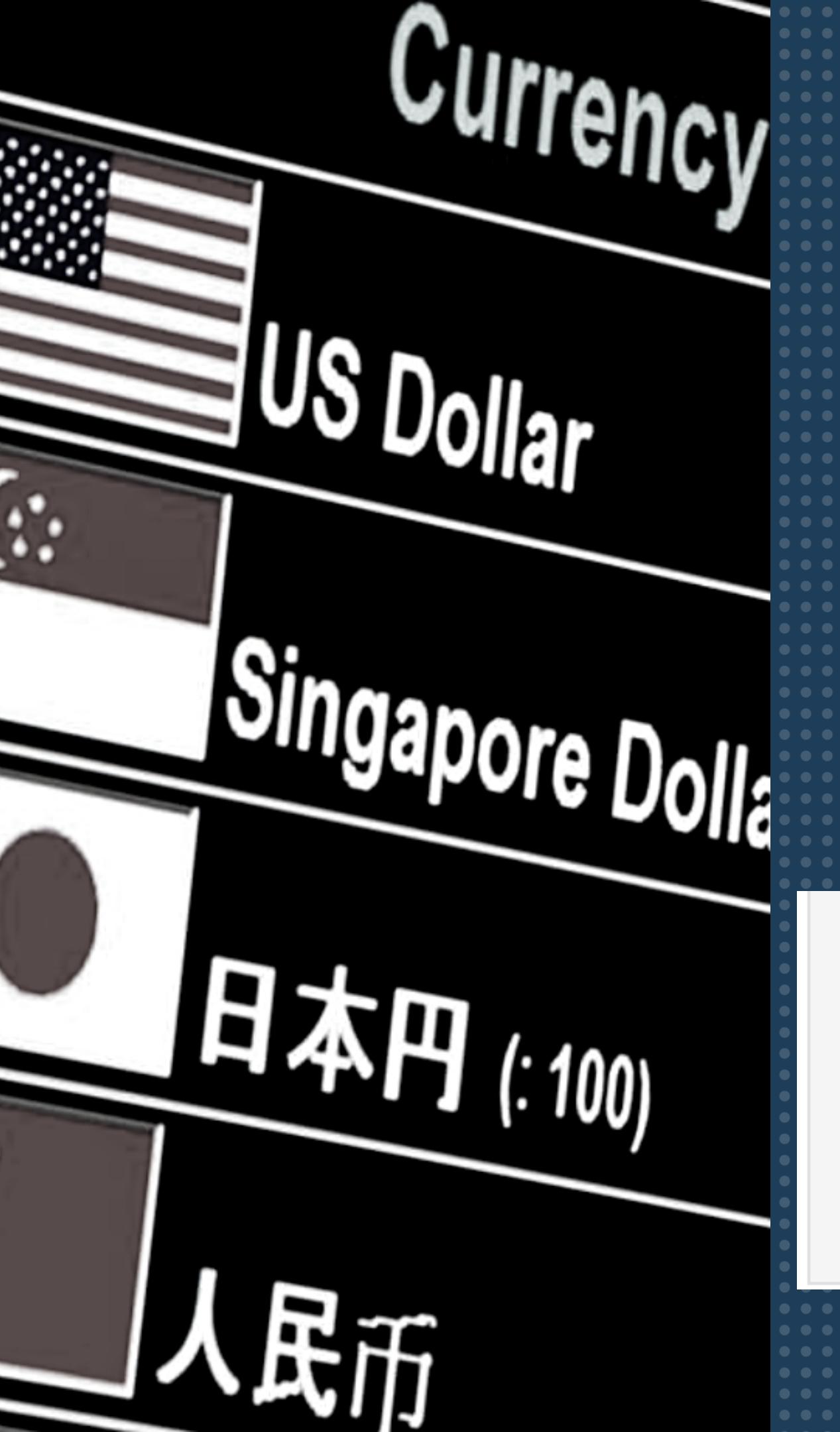


3- Choose Action

- we use `questionary.rawselect` to select between different options.

- 1- convert currencies.
- 2- Top highest currencies.
- 3- Top lowest currencies.
- 4- Quit

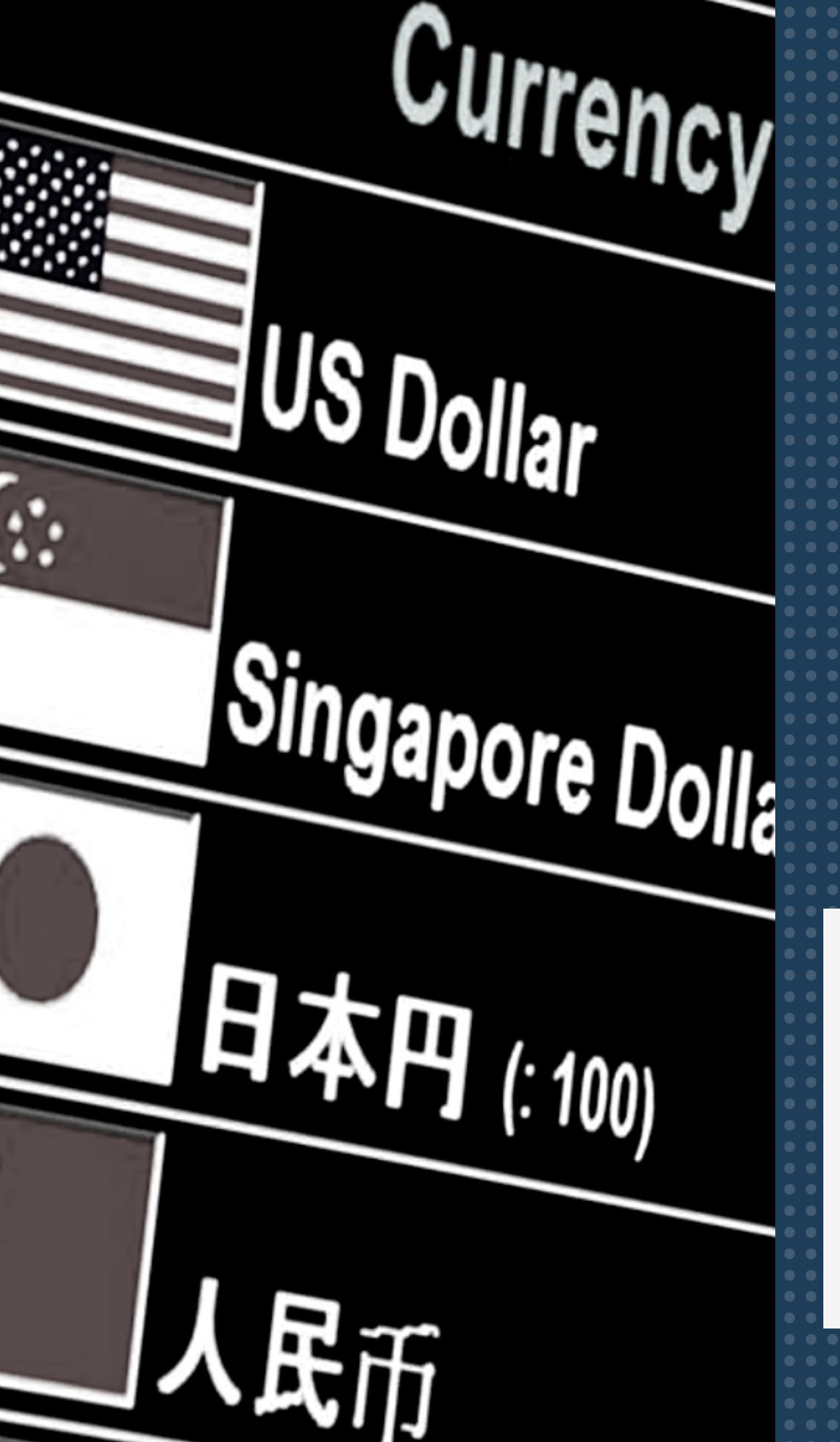
```
def chooseAction(self):  
    action = questionary.rawselect(  
        "What do you want to do? , \n Please click on the number you would like to choose from your  
        ["Convert currencies.",  
         "Show top 10 highest currencies.",  
         "Show top 10 lowest currencies.",  
         "Quit the program."  
        ]).ask()  
    return action
```



4- getData

```
def getData(self):
    """
    To get the data using the exchangerate api
    """

    return requests.get(self.url).json()
```



5-Show Data

```
def showData(self, data):
    """
    To show the data
    """
    # Display the response data
    print(json.dumps(data, indent=4, sort_keys=True))
```

Images with brief description.



HOW DO WE GET THERE?

CREATION OF TECHNOLOGY



```
♥ ♥ ♥  
? What do you want to do? ,  
Please click on the number you would like to choose from your keyboard. (Use shortcuts)  
» 1) Convert currencies.  
2) Show top 10 highest currencies.  
3) Show top 10 lowest currencies.  
4) Quit the program.
```

1- OPENING AND SELECT A CHOICE

when you open the program, welcome message, and you can choose the first choice to convert between currencies.

```
Hello, welcome to Joe's Currency Converter
```

```
♥ ♥ ♥
```

```
? What do you want to do? ,  
Please click on the number you would like to choose from your keyboard. (Use shortcuts)  
1) Convert currencies.  
» 2) Show top 10 highest currencies.  
3) Show top 10 lowest currencies.  
4) Quit the program.
```

2- CONVERTING BETWEEN CURRENCIES

In case you choose number 1, you have to select your domestic currency.

Then you have to enter the value.

At last, you have to select your foreign currency.

```
? Which Domestic would you like to change from ? USD
You chose USD as your Domestic Currency
? Enter the Value needed to be changed .... 50.0
? Which Domestic would you like to change from ? (Use arrow keys)
» USD
AED
AFN
ALL
AMD
ANG
AOA
ARS
AUD
```

```
? Enter the Value needed to be changed .... 50.0
value entered is
50.0
? Which Foreign currency would you like to ? (Use arrow keys)
USD
» AED
AFN
```

3-GETTING THE RESULT

the result and thank you a message.

```
? Which Foreign currency would you like to ? AED
You chose AED as your Foreign Currency
183.5
183.5
Thank you very much for using Joe's Currency converter!!!!
```

4- IF THE USER WILL SELECT CHOICE #2

it will show the user the top highest currencies.

```
Hello, welcome to Joe's Currency Converter
♥ ♥ ♥
? What do you want to do? ,
Please click on the number you would like to choose from your keyboard. Show top 10 highest currencies.
country_ticker    rates
KWD          KWD  0.300
BHD          BHD  0.376
OMR          OMR  0.384
JOD          JOD  0.709
XDR          XDR  0.715
FKP          FKP  0.749
GBP          GBP  0.749
GGP          GGP  0.749
GIP          GIP  0.749
SHP          SHP  0.749
```

5- IF THE USER WILL SELECT CHOICE #3

it will show the user the lowest 10 currencies.

```
Hello, welcome to Joe's Currency Converter
♥ ♥ ♥
? What do you want to do? ,
Please click on the number you would like to choose from your keyboard. Show top 10 lowest currencies.

      country_ticker      rates
IRR          IRR  41993.53
VND          VND  22634.85
IDR          IDR  14280.46
SLL          SLL  10962.72
LAK          LAK  10769.13
UZS          UZS  10735.86
GNF          GNF  9532.80
PYG          PYG  6824.91
KHR          KHR  4060.27
MGA          MGA  3982.31

Thank you very much for using Joe's Currency Converter !!!!

PS C:\Users\omarm\PycharmProjects\pythonProject1> 
```

6- QUIT THE PROGRAM

thank you message and quit the program.

```
Hello, welcome to Joe's Currency Converter
♥ ♥ ♥
? What do you want to do? ,
Please click on the number you would like to choose from your keyboard. Quit the program.

Goodbye, hope to see you again!
PS C:\Users\omarm\PycharmProjects\pythonProject1> 
```



THANK YOU

YOUSSEF SAID